DFS-1000 Dataview

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1 USB Communication

Important Information

Connecting Controller

1.1 Important Information

1 - No USB communication is allowed while the controller is Activated. A warning message will be displayed if an attempt to Read or Write to the controller is made while it is Activated.

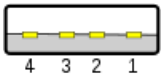
2 - Although USB communication is allowed while the engine is running it is best NOT to do so. Depending on the application there can be extensive amounts of electrical interference noise. This noise can corrupt and/or stop USB communication.

3 - The USB interface hardware provides Ground isolation between the Computer and Controller. All USB power lines and data lines do NOT have a direct connection to the Power and Ground on the controller.

4 - Never remove power or unplug the USB cable while reading or writing to the controller. If this does occur you must re-establish communication and confirm the data in the controller has not been corrupted. Either write the data again or read the data from the controller to verify integrity.

1.2 Connecting Controller

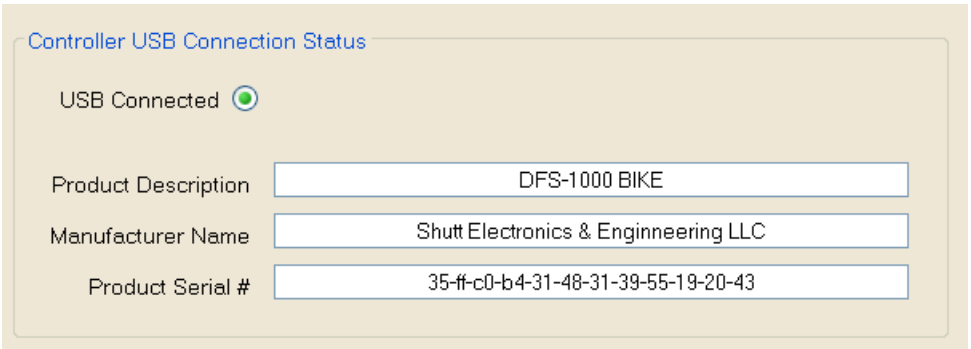
Connect the controller to the computer with the USB cable. Be sure to use a Type-A (PC Side)



Type A to Mini-B (Controller)

Mini-B cable. If the correct cable is NOT used ,damage to the USB connectors can/will result.

Make sure the controller is powered ON and check the connection status. The status information will be similar to the example below, if the status fields are blank a valid connection has NOT been established and the cable and/or controller power should be checked.



When a USB connection has been established the current controller FLASH Image name will be displayed in the Title area of the main Dataview window.

2 User Interface

Overview

File Menu

Options Menu

Help Menu

Toolbar

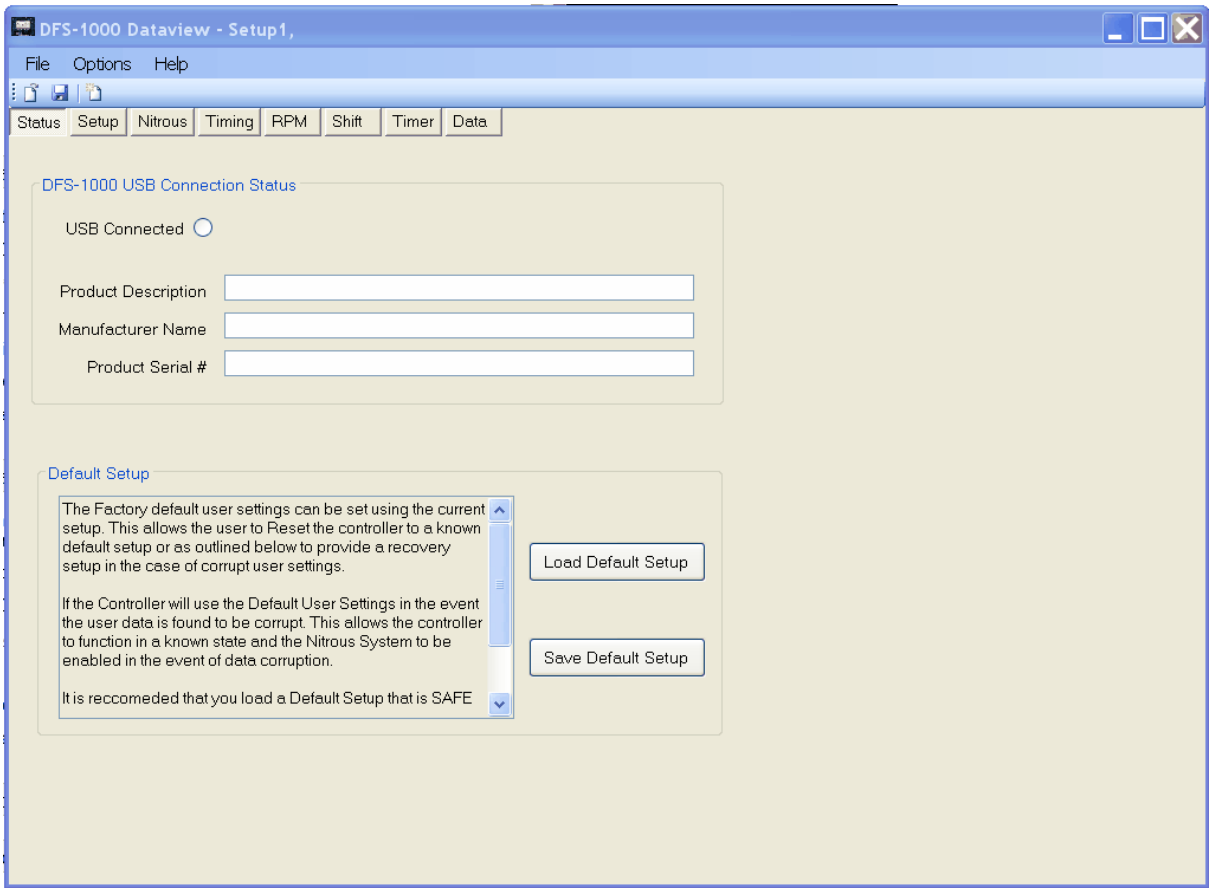
Tab Control

Graph Control

Dataview Control

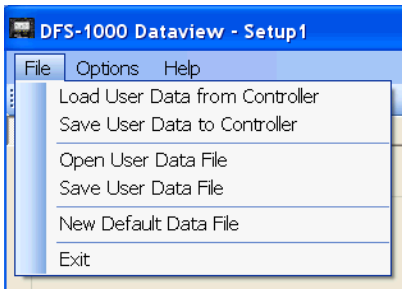
2.1 Overview

The Dataview software provides an interface to the controller and allows the user to make changes to the user setup and download Data log information from the controller.The user interface is structured to allow quick and easy access to controller settings and data.


DFS-1000 Dataview - Setup1,
File
Options
Help
Status
Setup
Nitrous
Timing
RPM
Shift
Timer
Data
DFS-1000 USB Connection Status
USB Connected
Product Description
Manufacturer Name
Product Serial #
Default Setup
The Factory default user settings can be set using the current setup. This allows the user to Reset the controller to a known default setup or as outlined below to provide a recovery setup in the case of corrupt user settings.
If the Controller will use the Default User Settings in the event the user data is found to be corrupt. This allows the controller to function in a known state and the Nitrous System to be enabled in the event of data corruption.
It is reccomeded that you load a Default Setup that is SAFE
Load Default Setup
Save Default Setup

2.2 File Menu

The File Menu is used to load and save Setup data to the controller, load and save Setup data to a file, and to create a New default Setup.



Load User Data from Controller - use this selection to Load the Setup data from the controller. There are three user setups available, all will be loaded at one time. A USB connection must be established to load the data.

Save User Data to Controller - use this selection to Save the current Setup data to the controller. There are three user setups available, all will be saved at one time. A USB connection must be established to load the data.

Open User Data File - use this selection to Load the Setup data from a file on disk.

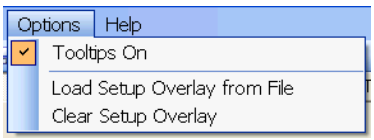
Save User Data File - use this selection to Save the Setup data to a file on disk.

New Default Data File - use this selection to create a New default Setup.

Exit - exit program.

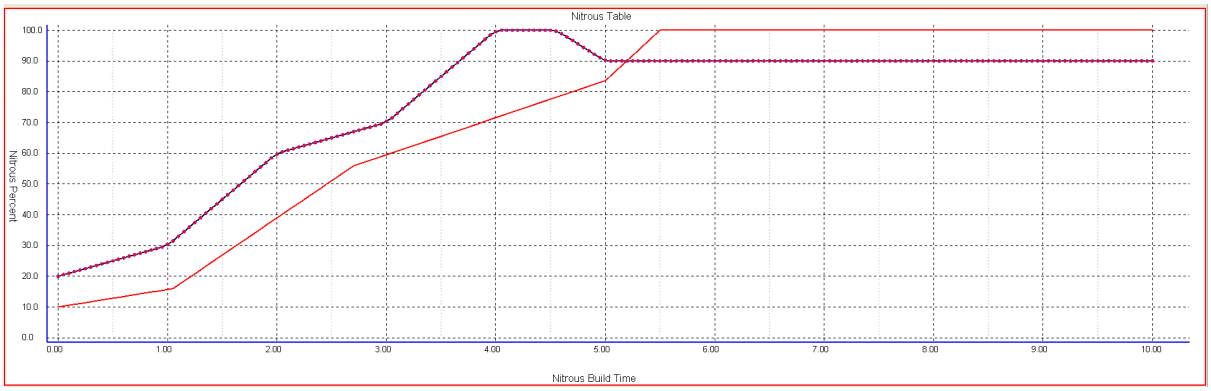
2.3 Options Menu

The Options Menu is used to turn on/off options and to perform other special actions.



Tooltips On - when this option is selected and the mouse cursor hovers over a control on the window a message will pop-up providing information.

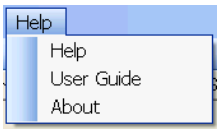
Load Setup Overlay from File - use this selection to load Setup data saved to a file as Overlay. The Overlay setup data will appear on the Graph controls as non-editable data and can be used as a reference when creating a new setup. The overlay data will be drawn in Red on the Graph control.



Clear Setup Overlay - use this selection to Clear previously loaded Overlay data.

2.4 Help Menu

Use the Help menu to access this file, Controller User Manual, and to view information about the author.



Help - Open this document.

User Guide - Open controller user guide.

About - display about window.

2.5 Toolbar

The Toolbar provides quick access to common tasks.

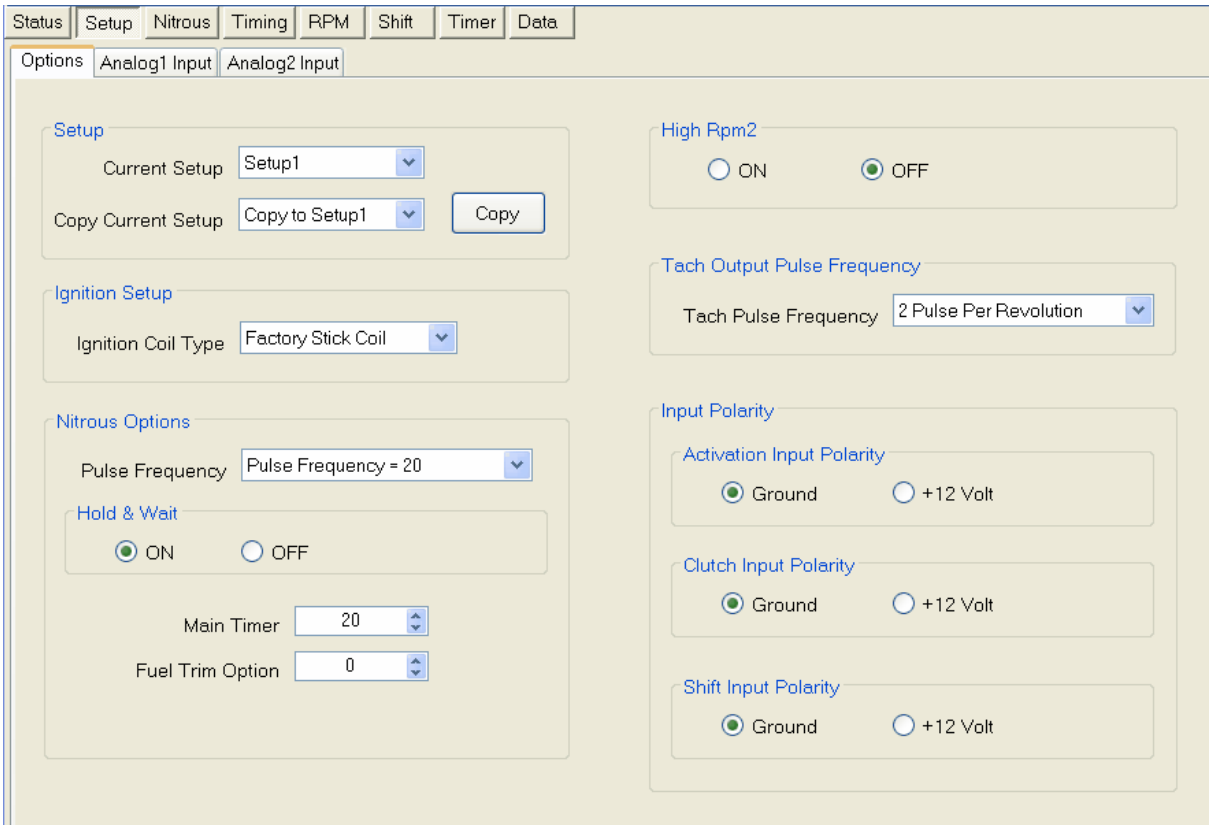
Open User Data File - use this selection to Load the Setup data from a file on disk.

Save User Data File - use this selection to Save the Setup data to a file on disk.

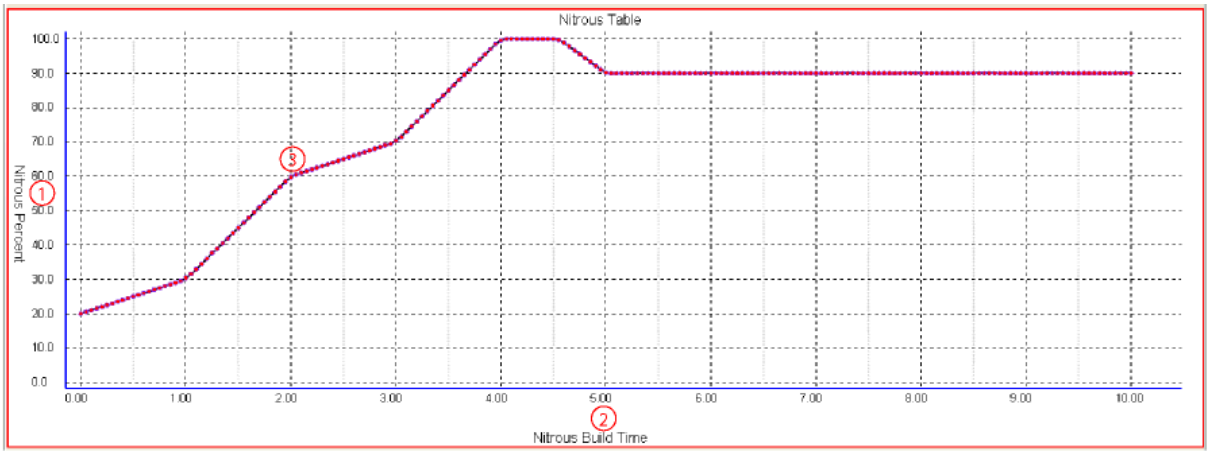
New Default Data File - use this selection to create a New default Setup.

2.6 Tab Control

The Tab Control allows quick and easy navigation to the user settings. See the **User Setting** section for detailed information.



2.7 Graph Control



Graph Control

The Graph Control allows dual axis data to be edited with Mouse Drag/Drop methods and Keyboard commands.

1 - Y-Axis, data value for given X-Axis position.

2 - X-Axis, control axis, can be Time, Rpm, Pressure, Etc...

3 - Data Plot/Points, Data plot/Set points.

Edit Commands

To move a single point, click on it and drag with mouse up or down. You can use the up/down arrow keys to move the data point as well. By pressing CTRL + UP/DOWN keys you can move the data point in fine precision.

To set an Edit point, double click on a data point. A X will appear to mark the Edit point. When you select another point with a single click all points between the Edit point and the Highlight point will auto fill as you drag the point.

SHIFT+LEFT/RIGHT keys move the Highlight between data points.

Scroll wheel and mouse right button to zoom.

Single click off from a data point and drag mouse to move around a zoomed in window.

ESCAPE or double click off from data point to cancel selected edit point. Or single click directly on highlighted Edit point to cancel

CTRL-Z to Undo

3 User Settings (Tab Control)

Status

Setup

Nitrous

Timing

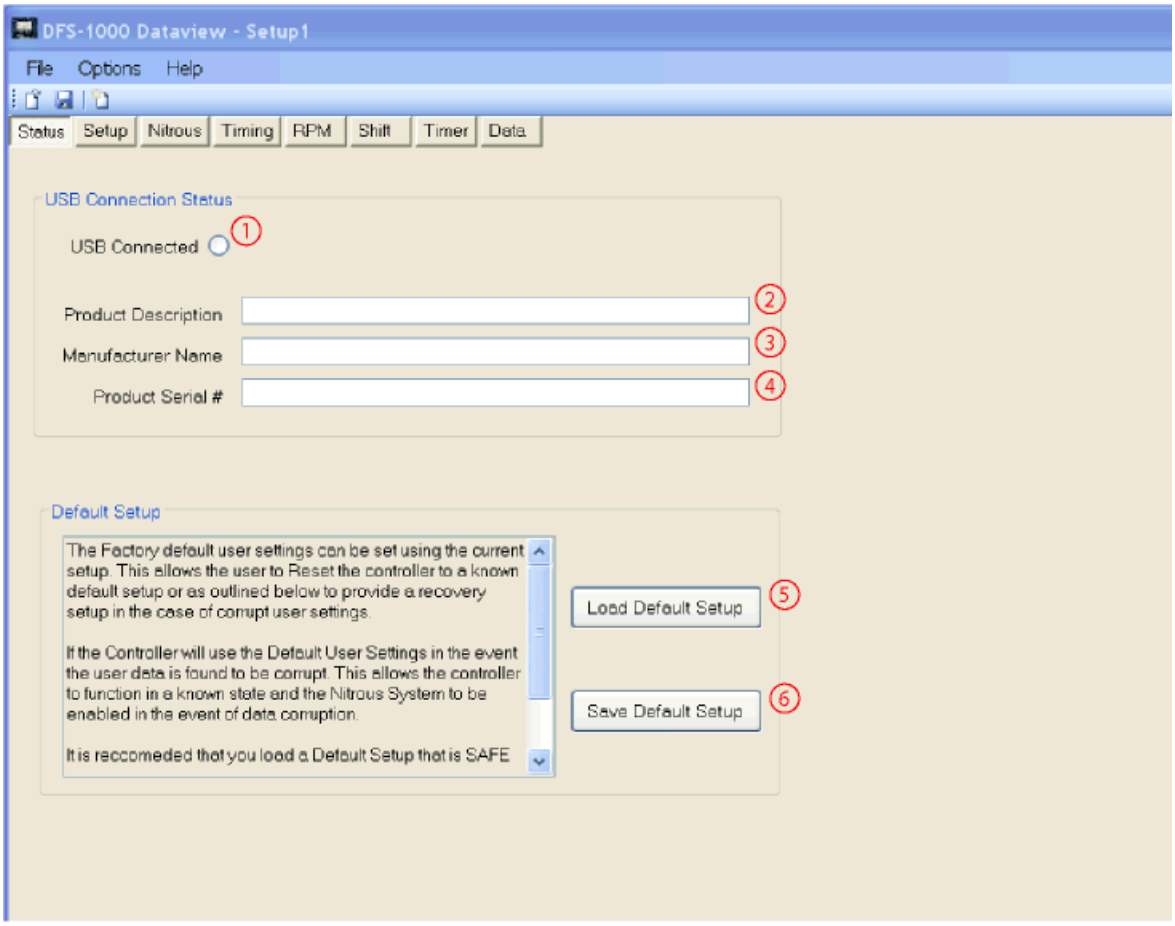
RPM

Shift

Timer

Data

3.1 Status


DFS-1000 Dataview - Setup1
File
Options
Help
Status
Setup
Nitrous
Timing
RPM
Shift
Timer
Data
USB Connection Status
USB Connected
1
Product Description
2
Manufacturer Name
3
Product Serial #
4
Default Setup
The Factory default user settings can be set using the current setup. This allows the user to Reset the controller to a known default setup or as outlined below to provide a recovery setup in the case of corrupt user settings.
If the Controller will use the Default User Settings in the event the user data is found to be corrupt. This allows the controller to function in a known state and the Nitrous System to be enabled in the event of data corruption.
It is reccomeded that you load a Default Setup that is SAFE
Load Default Setup
5
Save Default Setup
6

USB Connection Status

1 - USB Connected, radio button that shows status of connection. When checked a valid USB connection has been established.

2 - Product Description, description of device connected.

3 - Manufacturer Name, name of manufacturer of device connected.

4 - Product Serial #, unique serial to device connected.

Default Setup

The Default Setup can be programmed using a User Defined Setup. If the controller determines corrupt Setup data during bootup it will load the Default Setup data, by loading a User Defined Default Setup if this occurs a "SAFE" setup will be used for operation.

It is highly unlikely that the Setup data memory will become corrupt, however in the event it did occur this provides a user defined action.

5 - Load Default Setup, load the Default Setup data from the controller.

6 - Save Default Setup, save the current Setup data to the controller as the Default Setup. The controller can be "Reset" to the Default Setup using the "Factory Reset" option for the "SETUP" Menu.

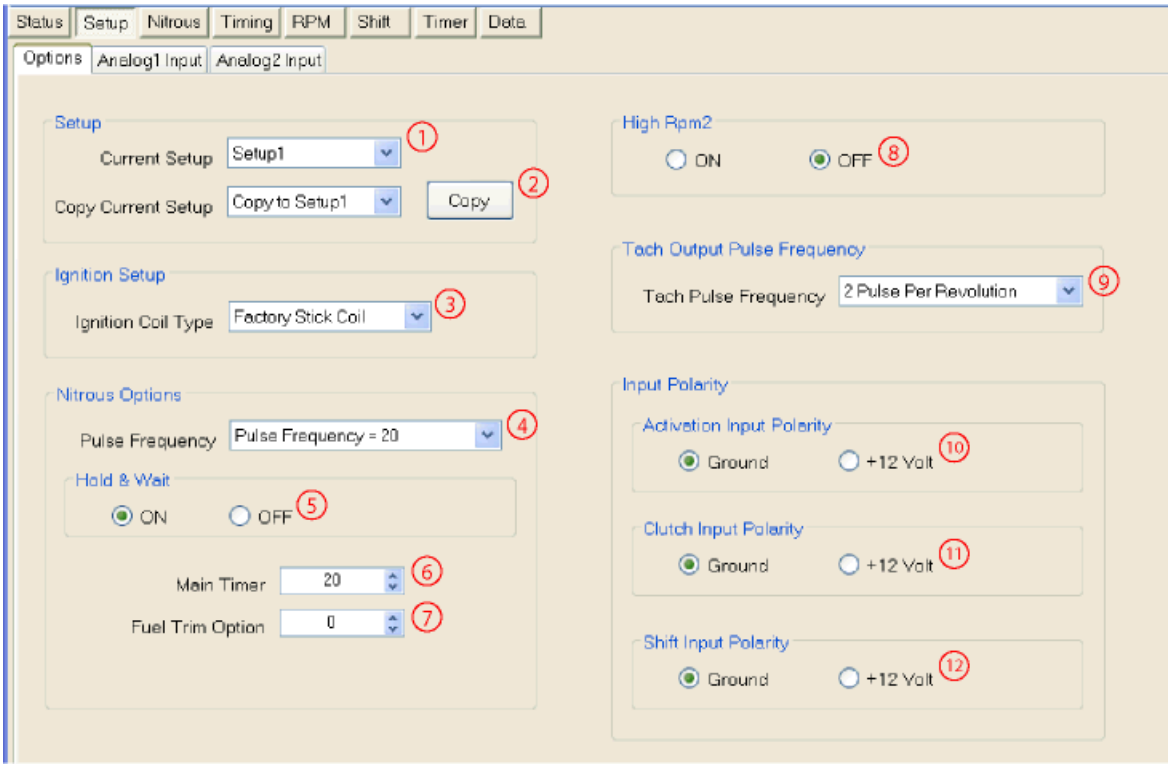
3.2 Setup

Options

Analog1 Setup

Analog2 Setup

3.2.1 Options



Setup

1 - Current Setup, There are 3 Data Setups available. All user settings will be saved when selecting a New Data Setup from the list. This way multiple User Setups can be stored and recalled at a later time. Example - you have a Setup that is working well, you decide that you would like to try a few different settings. You could Copy all current Setup Data to a New Setup and make changes without loosing the original setup. See also Copy Current Setup.

2 - Copy Current Setup, The current setup may copied to another Setup, after selecting which setup to copy the current user data is copied. If the Current Setup is selected the request is

ignored.

Ignition Setup

3 - Ignition Coil Type, Use this election to choose the type of ignition coil used.

Nitrous Options

4 - Pulse Frequency, This setting determines the number of times per second that the solenoids pulse. A lower setting generally will provide a more linear power delivery. A lower setting allows lower starting percentages to be used also. The correct setup will be different depending on the type of solenoids and bottle pressure used. Testing is the only way to determine the best frequency for each application. When changing the pulse frequency the current Nitrous Setup will be time altered. Be sure to adjust the Nitrous and Fuel Settings after a Frequency change!

5 - Hold & Wait, This setting allows the Progressive system to Hold & Wait when the Activation signal is removed. Example - the throttle is lifted due to wheel spin or ? This allows the Progressive system to resume at the point where the throttle was lifted. If this option is OFF the Progressive system and All Timers will reset each time the Activation is removed.

6 - Main Timer, This setting controls the Main Timeout period. This controls the total time elapsed before a System Timeout occurs. This limits the total amount of time the solenoids can be On if the Activation signal is never removed. This setting also allows the system to be used with Wait & Hold option and the Progressive Timers will reset after the Timeout Period has elapsed and the Activation signal is removed. This enables a Reset without powering the unit down.

7 - Fuel Trim Option, WARNING - This setting controls the Fuel Trim. This setting allows the Fuel Percentage to be set Less than the Nitrous. Use this setting with great caution! This setting controls the total Percentage the Fuel may be set less than the Nitrous. Example - a setting of 25 would allow the Fuel percent to be 25% less than the Nitrous.

Valid Range is 0% to 100% in 1% Increments.

High Rpm2

8 - High Rpm2 Enable, this setting enables/disables a second HighRpm option. When enabled the HighRpm2 setting will appear in the RPM Menu. The HighRpm2 setting will be used when the controller is Activated and the HighRpm setting will be the default setting when the controller is NOT activated. This option allows a second rev limiter for use during the burnout.

Tach Output Pulse Frequency

9 - Tach Pulse Frequency, this setting determines the number of Tach Output Pulses per revolution of the crankshaft. 1,2, or 4 pulse selections are available. Please see detailed info for each selection below.

1 Pulse - this setting will provide one pulse with a falling signal at #1,4 TDC.
2 Pulse - this setting will provide a pulse with a falling signal at #1,4 and #2,3 TDC.
2 Pulse, Timing Mode - this setting will provide a pulse with a falling signal at #1,4 and #2,3 coil fire signal.

4 Pulse - this setting will provide a falling signal starting with #1,4 TDC and each 90 degrees of rotation.

Input Polarity

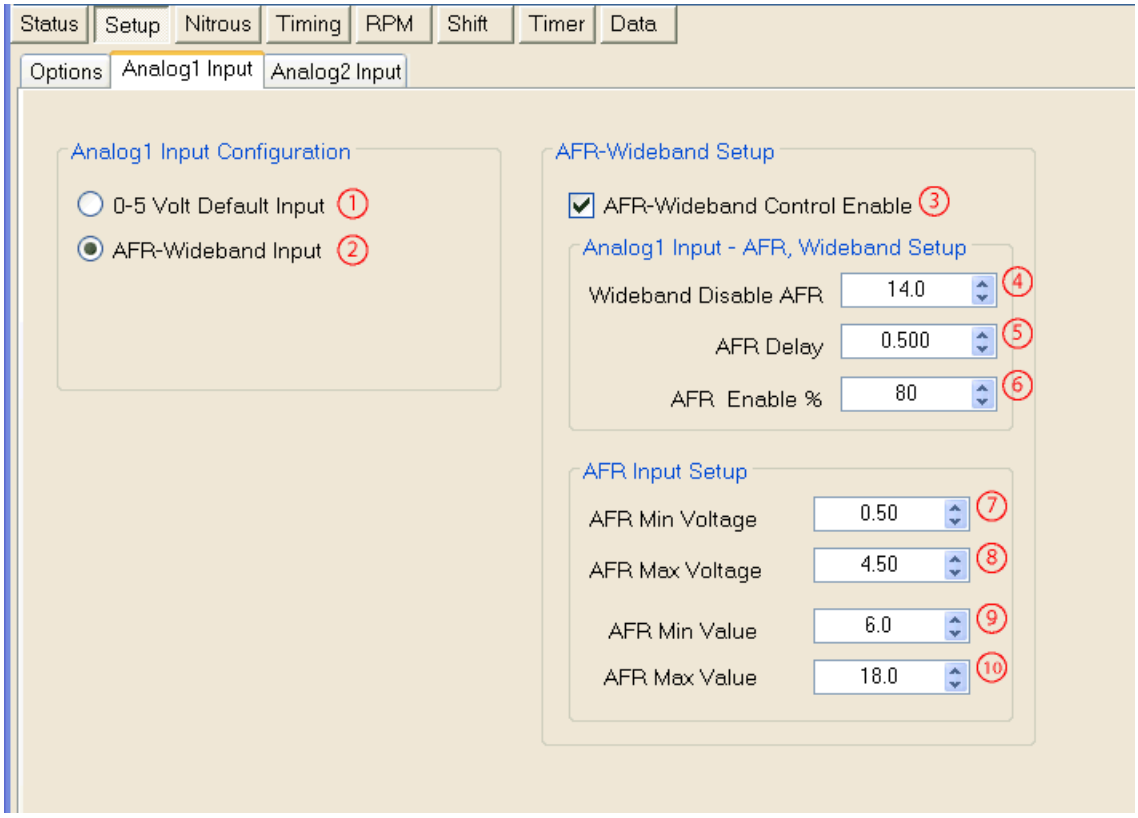
The Input Polarity for the Activation, Clutch, and Shift inputs may be configured for either Ground or +12V activation. This allows the controller to be configured to work with existing wiring or to eliminate the need for relays to change the activation polarity. The current input polarity state is displayed and will be updated when changed.

10 - Activation Input Polarity, configure the Activation Input polarity.

11 - Clutch Input Polarity, configure the Clutch Input polarity.

12 - Shift Input Polarity, configure the Shift Input polarity.

3.2.2 Analog1 Setup



Analog1 Input Configuration

1 - 0-5 Volt Default Input, This selection will configure the Analog1 Input as a default 0-5 volt input that is for data log function only.

2 - AFR-Wideband Input, This selection will configure the Analog1 Input to read a 0-5 volt signal from a Wideband controller. You will need to enter the correct calibration data for the

Wideband controller. This information can typically be found in the Wideband controller data sheet. The AFR reading can optionally be used to disable the Nitrous System in the event of a lean condition. Enable the controller Dataview1 option to view the Analog1 input on the main screen to verify operation. The Dataview1 can be configured in the controller SETUP menu.

AFR-Wideband Setup

3 - AFR-Wideband Control Enable, By enabling the AFR input the 0-5 volt output from a O2 Wideband controller can be used to disable the nitrous system if a Lean condition is detected.

4 - Wideband Disable AFR, this setting determines the Air Fuel Ratio at which the nitrous system is disabled due to a lean condition. A setting of 0.0 will disable this feature. This setting is used along with the AFR Delay and AFR Disable Percent settings.

Valid Range is 0.0 to 20.0 in .1 increments.

5 - AFR Delay, This setting controls the amount of time the Air Fuel Ratio must be above the AFR Disable setting before disabling the nitrous system. This allows the system to filter out short Lean spikes.

Valid Range is 0.000 to 1.000 Second in .001 Increments.

6 - AFR Enable %, This setting determines at what Nitrous Percent (Duty Cycle) the Wideband Disable function is Active. When the progressive ramp first begins the system will not be at the 100% Nitrous air-fuel ratio. Use this setting to determine at what Nitrous Percent the Wideband Nitrous Disable function becomes active.

Example - When the Nitrous is first activated the air-fuel is 14 to 1 and the Wideband Disable Voltage is set to turn off the nitrous if the system is 12.8 to 1 or above. This setting would allow the Nitrous and Fuel to begin flowing and get to an air-fuel ratio that is below the disable setting.

Valid Range is 10% to 100%

AFR Input Setup

7 - AFR Min Voltage, this setting should be set to the voltage the Wideband controller outputs at the minimum/rich AFR range.

Valid Range is 0.0 to 5.0 volts in .1 volt increments.

8 - AFR Max Voltage, this setting should be set to the voltage the Wideband controller outputs at the maximum/lean AFR range.

Valid Range is 0.0 to 5.0 volts in .1 volt increments.

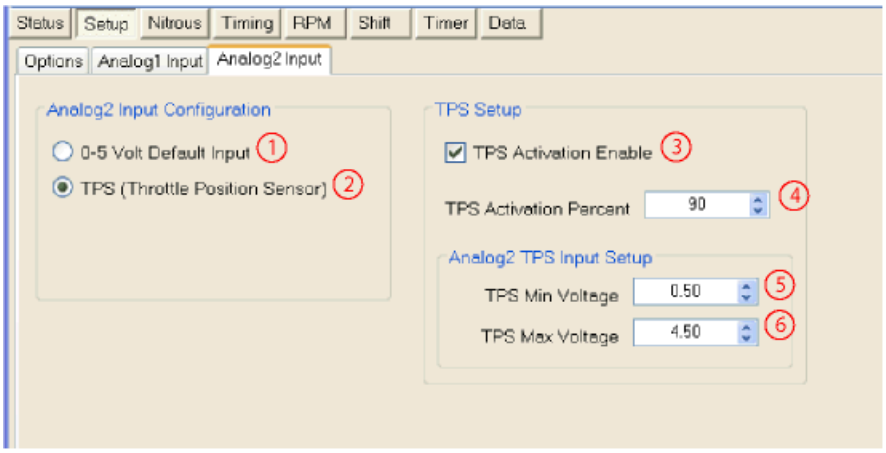
9 - AFR Min Value, this setting should be the Air Fuel Ratio that corresponds to the AFR Min voltage.

Valid Range is 0.0 to 25.0 in .1 increments.

10 - AFR Max Value, this setting should be the Air Fuel Ratio that corresponds to the AFR Max voltage.

Valid Range is 0.0 to 25.0 in .1 increments.

3.2.3 Analog2 Setup



Analog2 Input Configuration

1 - 0-5 Volt Default Input, This selection will configure the Analog1 Input as a default 0-5 volt input that is for data log function only.

2 - TPS (Throttle Position Sensor), This selection will configure the Analog2 Input to read a TPS (throttle position sensor). The minimum and maximum TPS voltage will need to be entered manually or can be entered using live input data. The voltage sweep from the sensor can be either rising or falling.

Enable the controller Dataview1 option to view the Analog1 input on the main screen to verify operation. The Dataview1 can be configured in the controller SETUP menu.

TPS Setup

3 - TPS Activation Enable, this feature allows the throttle position sensor input to control system activation. The Activation Input must be used even if this option is selected.

4 - TPS Activation Percent, this setting determines the TPS percent at which system activation will occur. A valid signal MUST also be present on the Activation input.

Valid Range is 10 to 100 Percent in .1 Percent increments.

Analog2 TPS Input Setup

5 - TPS Min Voltage, this setting is the voltage with the Throttle Position Sensor in the idle position.

Valid Range is 0.00 to 5.00 volts in .01 volt increments.

6 - TPS Max Voltage, this setting is the voltage with the Throttle Position Sensor in the wide

open position.

Valid Range is 0.00 to 5.00 volts in .01 volt increments.

3.3 Nitrous

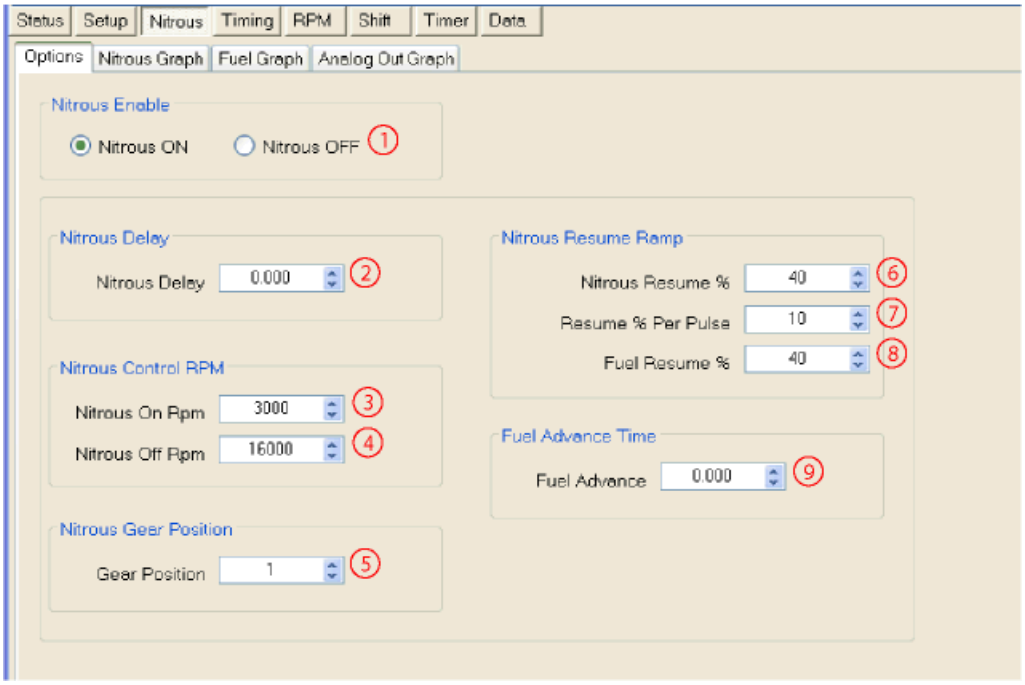
Options

Nitrous Graph

Fuel Graph

Analog Out Graph

3.3.1 Options



Nitrous Enable

1 - Nitrous System Enable, Use this setting to turn the Nitrous system ON or OFF. The Ignition retard functions will still continue to function.

Nitrous Delay

2 - Nitrous Delay, This setting determines he amount of Delay before the Nitrous is applied after Activation. A Fuel Advance is also available so the Fuel may be started before the Nitrous if desired.

Valid Range is 0.000 to 9.999 seconds.

Nitrous Control RPM

3 - Nitrous On RPM, This setting controls the RPM that must be achieved before Nitrous Activation is allowed, after Activation the Nitrous output will be disabled if the Engine RPM drops below this setting.

Valid Range is 3,000 to 16,000 Rpm in 10 Rpm Increments.

4 - Nitrous Off RPM, This setting controls the maximum RPM before the Nitrous output will be disabled.

Valid Range is 3,000 to 16,000 Rpm in 10 Rpm Increments.

Nitrous Gear Position

5 - Gear Position, this option allows the Nitrous to be started by gear position. Example, if the Nitrous Shift Count is set to 3rd Gear the Nitrous would not start until the system is Activated and the bike has reached 3rd gear. The Initial Retard is still applied as normal, however, the Nitrous delay timer and the Build Retard will not start until the bike is in the selected gear position.

Nitrous Resume Ramp

6 - Nitrous Resume %, This setting determines the percent the Nitrous resumes at if the user has to lift the throttle during Activation. This setting is only valid if the Hold And Wait option is ON. This setting is used with the Resume Percent Per Pulse setting to build a Resume Ramp. If the Resume Start Percent is greater than the current Nitrous percent the Resume Ramp is ignored.

Valid Range is 10% to 100% in 1% Increments. A setting of 100% disables this feature.

7 - Resume % Per Pulse, This setting determines the rate at which the Nitrous Resumes if the user lifts the throttle during activation. This setting is used with the Resume Start Percent to build a Resume Ramp. This allows the user to adjust how quick the Nitrous comes Back On if the Activation signal is removed.

Valid Range is 10% to 50% in 1% Increments.

8 - Fuel Resume %, This setting determines the percent the Fuel resumes at if the user has to lift the throttle during Activation. This setting is only valid if the Hold And Wait option is ON. This setting is used with the Resume Percent Per Pulse setting to build a Resume Ramp. If the Resume Fuel Percent is greater than the current Fuel percent the Resume Ramp is ignored.

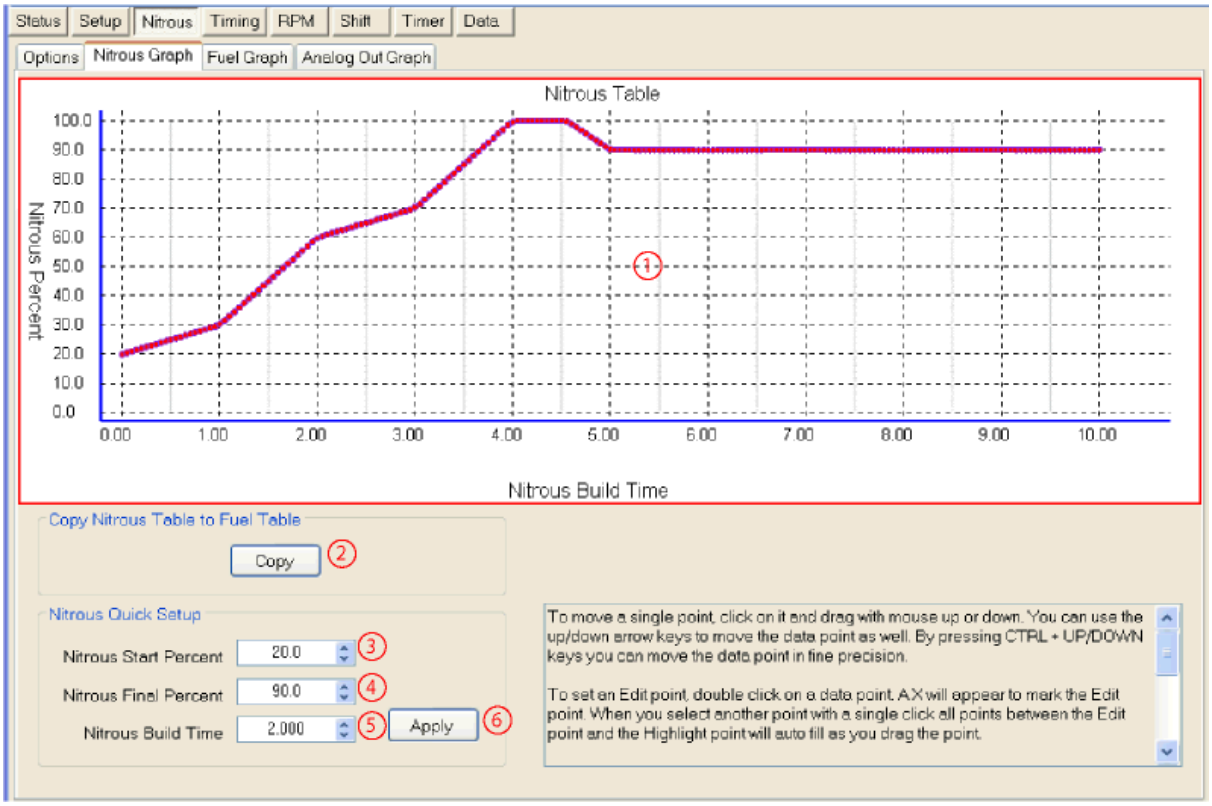
Valid Range is 10% to 100% in 1% Increments. A setting of 100% disables this feature.

Fuel Advance Time

9 - Fuel Advance, This setting allows the Fuel to start before the Nitrous. With the Fuel operating at a lower pressure this allows the proper amount of fuel to be delivered with the Nitrous upon Initial Activation.

Valid Range is 0.000 to 9.999 second.

3.3.2 Nitrous Graph



Nitrous Progressive Ramp

1 - Nitrous Graph, The Nitrous Percentage can be adjusted for each Pulse during the Progressive Ramp.

This is done using a 2-D Graph Editor. Please see Basic Editing Instructions below the Graph Control. The Fuel Percentage/Ramp can be adjusted independently of the Nitrous see Fuel Setup. If the Fuel is set to a value below the Nitrous it will be automatically adjusted to the new Nitrous setting (Unless the Fuel Trim Option has been adjusted). If the Fuel setting is greater than the Nitrous it will NOT be altered.

2 - Copy Nitrous Table to Fuel Table, this selection will Copy the current Nitrous Graph data to the Fuel Graph.

Nitrous Quick Setup

Use this selection to do Quick Progressive setups. This feature allows the Nitrous to be setup using a Start%, Final%, and a Build Time. For advanced Nitrous and Fuel ramps use the Nitrous Graph Setup and the Fuel Graph Setup menu selections.

3 - Nitrous Start Percent, This setting determines the Nitrous Starting percentage. The Start Percent can be less than or greater than the Final Percent setting. If the Start percent is greater than the Final percent the ramp will progress backwards.

Valid Range is 10% to 100% in 1% Increments.

4 - Nitrous Final Percent, This setting determines the Nitrous Final percentage. The Final Percent can be less than or greater than the Start Percent setting. If the Start percent is greater than the Final percent the ramp will progress backwards.

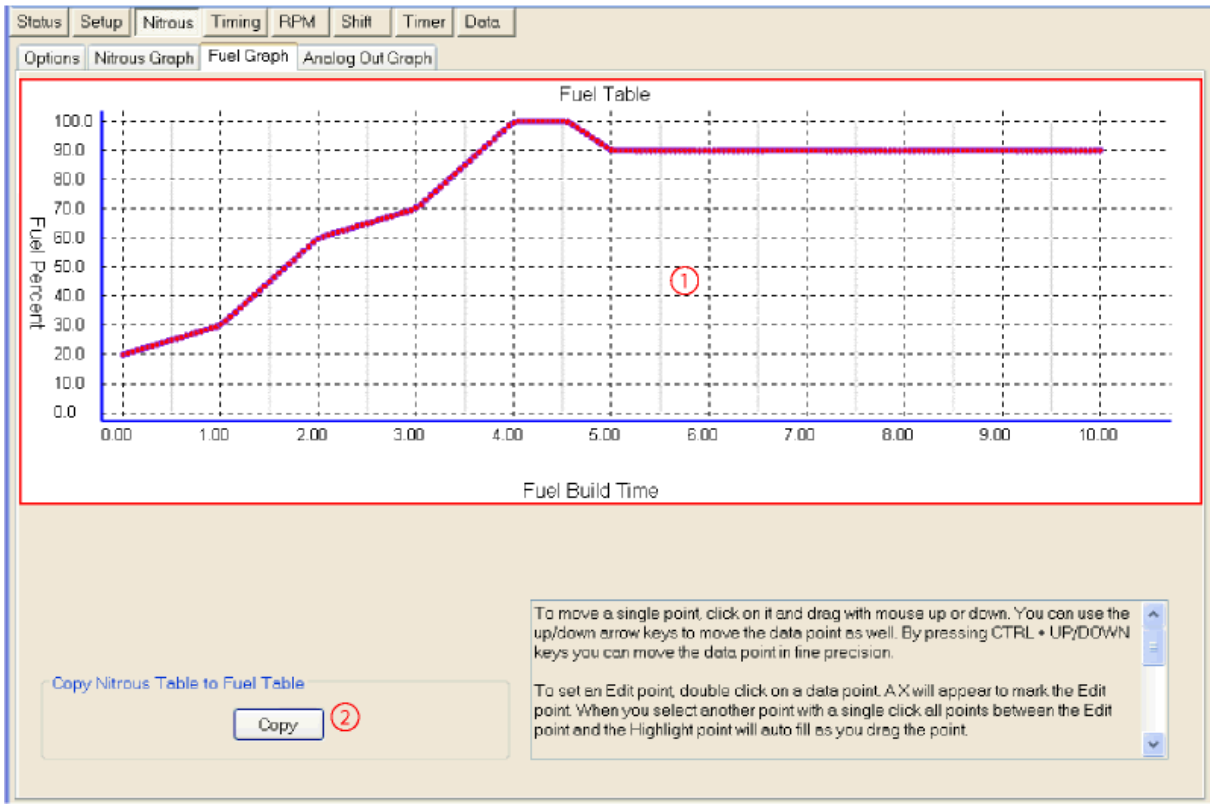
Valid Range is 10% to 100% in 1% Increments.

5 - Nitrous Build Time, This setting determines the time it takes for the Nitrous to ramp from the Start Percent to the Final Percent settings. A Short build time will make the Nitrous Power Ramp more aggressive and a longer Build Time will make it less aggressive.

Valid Range is .200 to 9.900 seconds in .100 second Increments.

6 - Apply, click this button to build the Nitrous Progressive ramp using the Start%, Final%, and Buyild Time data.

3.3.3 Fuel Graph



Fuel Progressive Ramp

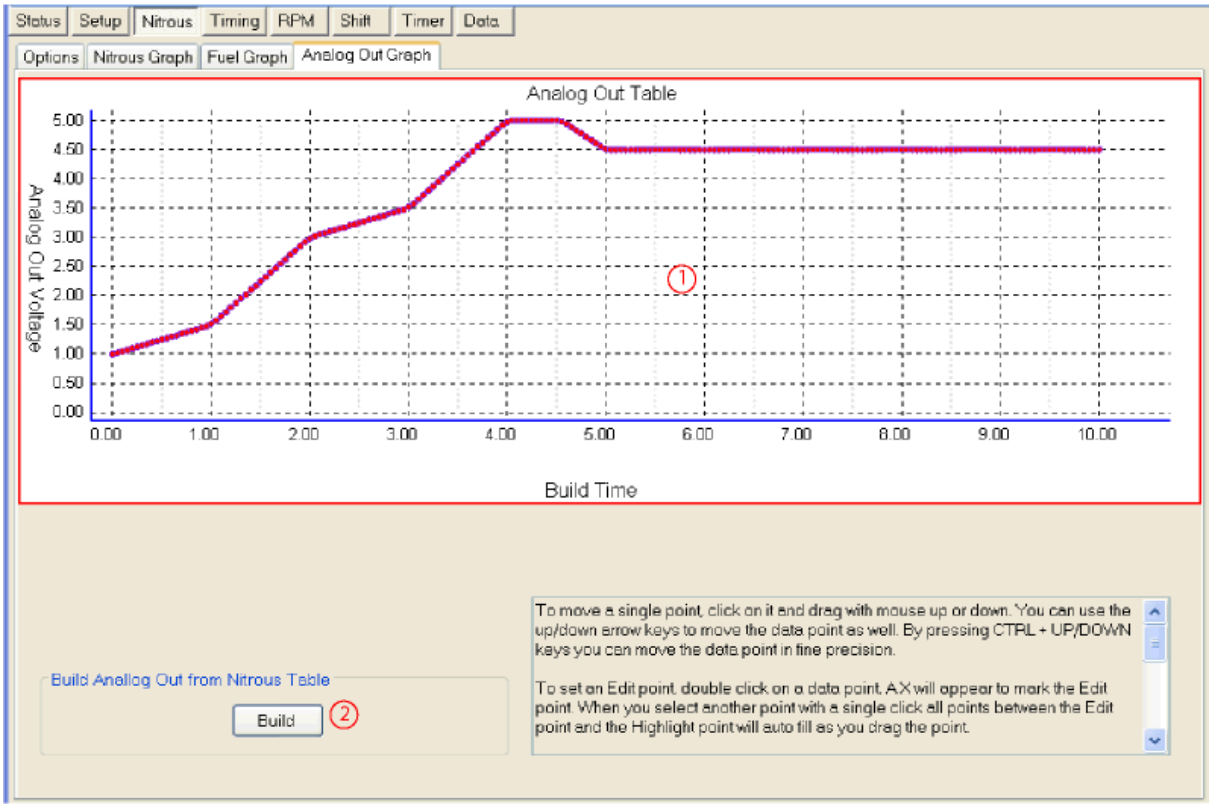
1 - Fuel Graph, the Fuel Percentage can be adjusted for each Pulse during the Progressive Ramp.

This is done using a 2-D Graph Editor. Please see Basic Editing Instructions below the Graph

Control. The Fuel Percentage/Ramp can be adjusted independently of the Nitrous see Fuel Setup. If the Fuel is set to a value below the Nitrous it will be automatically adjusted to the new Nitrous setting (Unless the Fuel Trim Option has been adjusted). If the Fuel setting is greater than the Nitrous it will NOT be altered.

2 - Copy Nitrous Table to Fuel Table, this selection will Copy the current Nitrous Graph data to the Fuel Graph.

3.3.4 Analog Out Graph



Analog Out Setup

1 - Analog Out Graph, the Analog Out Voltage can be adjusted for each Pulse during the Progressive Ramp.

This is done using a 2-D Graph Editor. Please see Basic Editing Instructions below the Graph Control.

2 - Build Analog Out from Nitrous Table, Use this function to Auto Build the Analog Out Table based on the current Nitrous Data. The AnalogOut voltage is scaled so that 100% Nitrous = 5 Volt output. The resulting data can be edited using the Analog Out Graph Setup.

3.4 Timing

Options

Advance

Build Retard

Boost Retard

Launch Retard

3.4.1 Options

Initial Retard

1 - Initial Retard, this setting controls the amount of Timing Retard applied when the controller is Activated. The Initial Retard is always applied immediately when the controller is activated even if the Nitrous Delay Timer is set to value greater than 0.000 or the Nitrous Shift Counter is set to a gear position higher than 1st gear.

The initial retard will be applied after any Timing Advance is calculated. Example - timing advance is 34* and 4* of initial retard is applied. the total timing would then be 30*. The timing retard cannot go below TDC.

Valid Range is 0 to 12 Degrees in .1 Degree Increments.

Gear Position Timing Offset

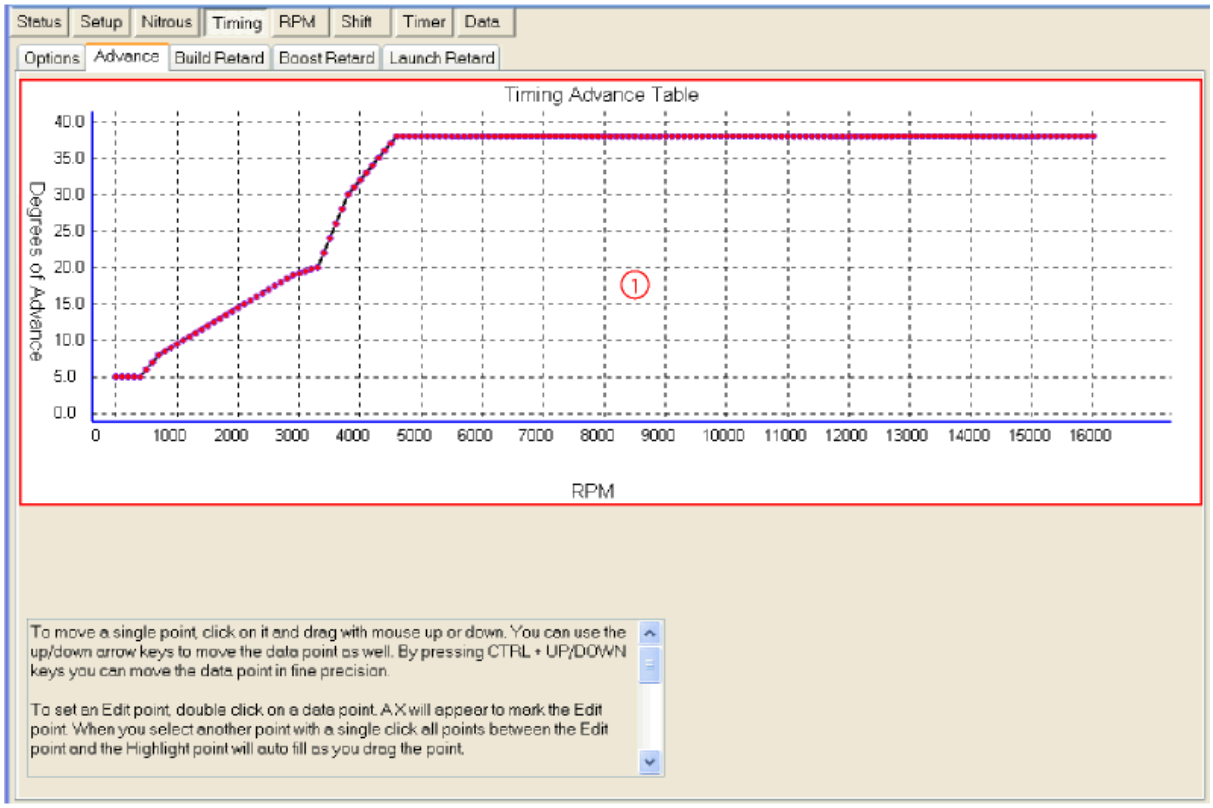
2-7 - Gear Position Timing Offset, the ignition timing can be adjusted on a per gear basis.

The timing will be advanced or retarded for each gear based on the setting. The gear position is NOT applied until the controller is Activated.

A maximum of 40* timing advance is allowed, any calculated timing advance greater than this will be automatically limited to 40*. The timing retard cannot go below TDC.

Valid Range is -10 to +10 Degrees in .1 Degree Increments.

3.4.2 Advance

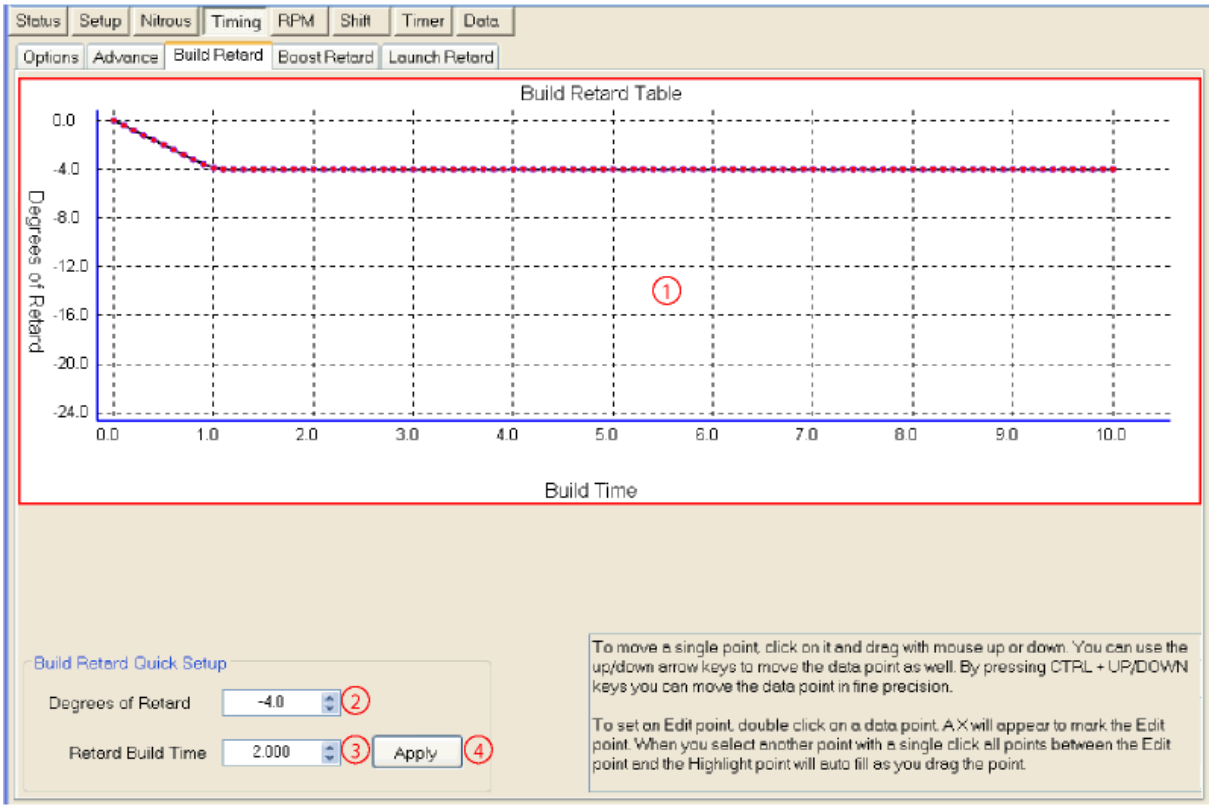


Timing Advance Setup

1 - Timing Advance Graph, the Timing Advance can be adjusted in a 100 RPM resolution. The timing is calculated using Linear Interpolation between RPM points. Once the Timing Advance is calculated any Boost Retard/MAP Sensor Timing control is applied. If the System is Activated further Timing calculations are performed according to the current Setup. The Ignition Timing is limited to a maximum of 40 degrees of Advance and can go no lower than Top Dead Center.

This is done using a 2-D Graph Editor. Please see Basic Editing Instructions below the Graph Control.

3.4.3 Build Retard

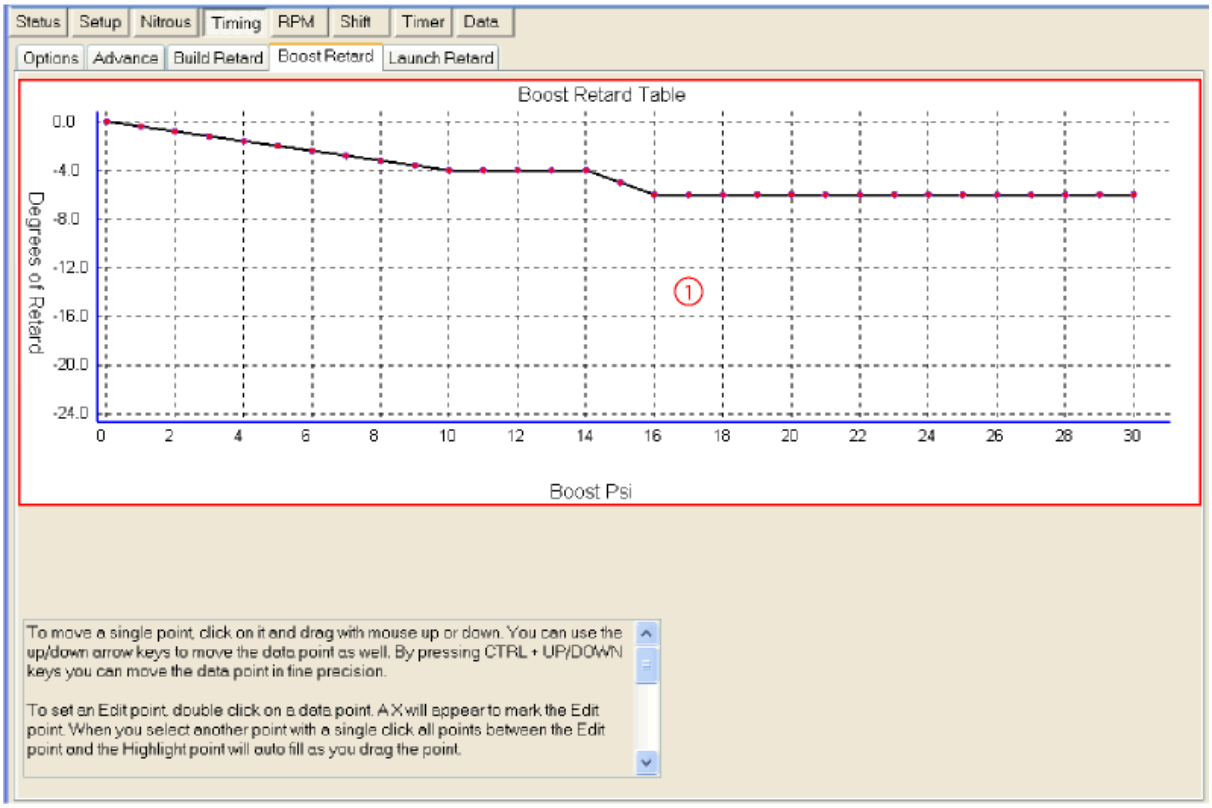


Build Retard Setup

1 - Build Retard Graph, The Build Retard is applied over time when the Progressive Nitrous begins. If the Nitrous Delay Timer is used the Build Retard will not begin until the timer has expired and the Nitrous Solenoids are operating. The Build Retard and Initial Retard are added together. See Also Boost Retard and Gear Position retard that can be used in conjunction with the Build
Retard for total retard applied.

This is done using a 2-D Graph Editor. Please see Basic Editing Instructions below the Graph Control.

3.4.4 Boost Retard

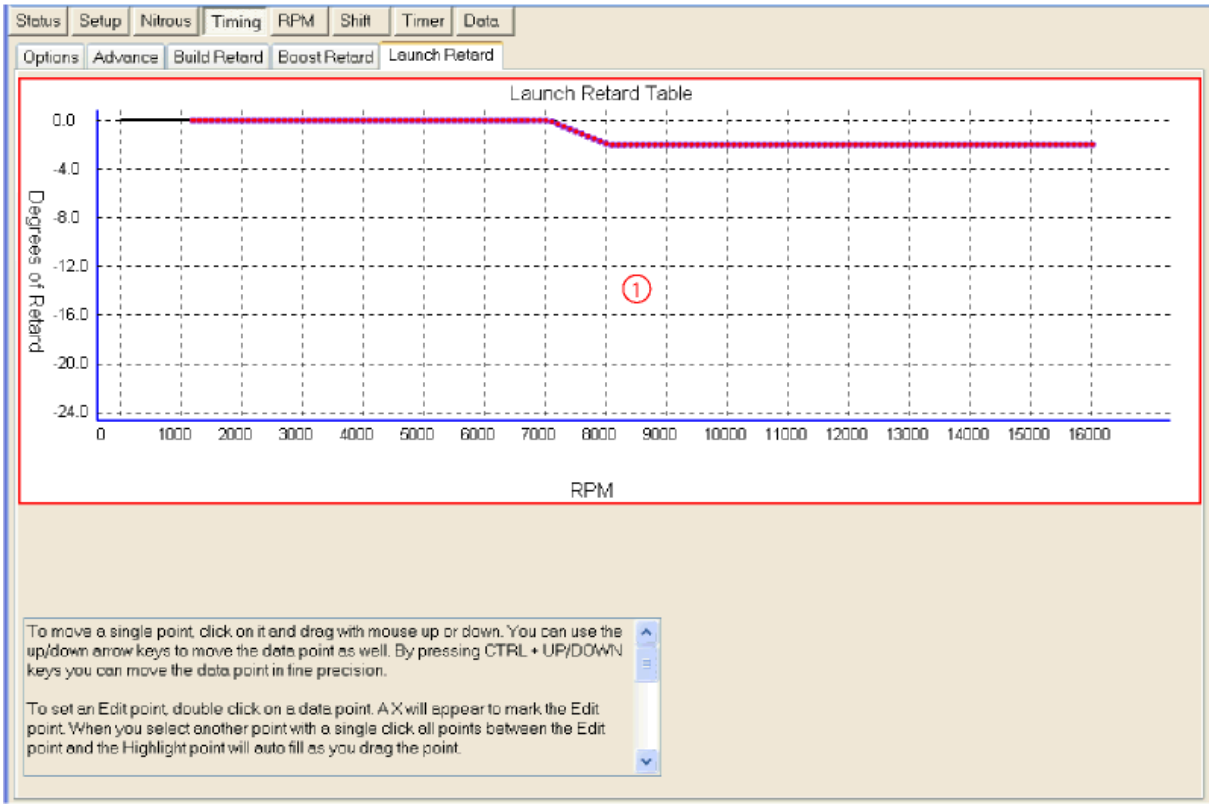


Boost Retard Setup

1 - Boost Retard Graph, the Boost Retard is intended to apply Timing Retard as boost level increases. To use this feature a GM 3-Bar MAP Sensor must be connected as outlined in the installation instructions. The Boost Retard is applied before any of the other Retard functions are applied and the system does NOT have to be activated.

This is done using a 2-D Graph Editor. Please see Basic Editing Instructions below the Graph Control.

3.4.5 Launch Retard



Launch Retard Setup

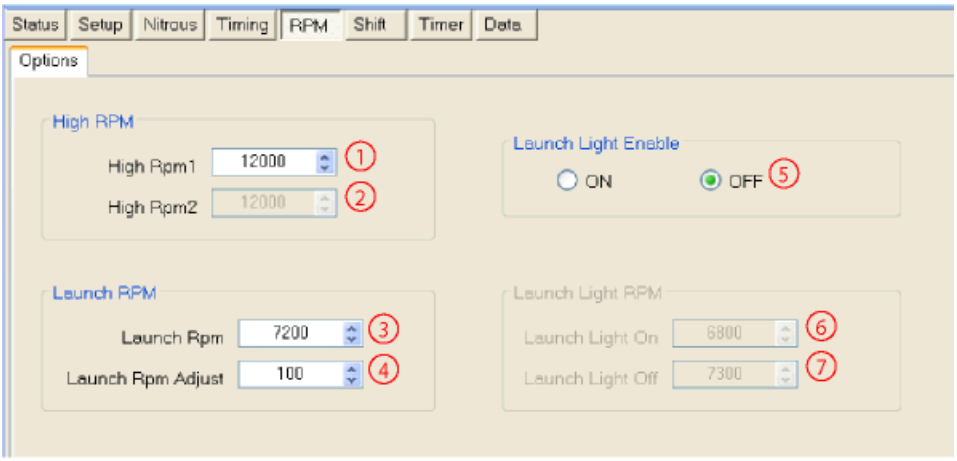
1 - Launch Retard Graph, The Launch Retard is applied only when the Clutch(2-Step) Input is Active and is controlled by Engine Rpm.

This is done using a 2-D Graph Editor. Please see Basic Editing Instructions below the Graph Control.

3.5 RPM

Options

3.5.1 Options



High RPM

1 - High Rpm1, this setting determines the High RPM rev limiter. An optional HighRpm2 setting is also available and can be turned ON from the Setup Menu. When the optional HighRpm2 is ON the HighRpm setting is used when the controller is NOT Activated and HighRpm2 is used while the controller is Activated.

If the HighRpm2 option is OFF this HighRpm setting is always used for the rev limiter Rpm.

Valid Range is 2,000 to 16,000 Rpm in 10 Rpm Increments.

2 - High Rpm2, this optional setting allows two different rev limiters to be used. The HighRpm2 setting is used for the rev limiter Rpm when the controller is Activated. See HighRpm1 setting for more information

Launch RPM

3 - Launch RPM, this setting controls the 2-Step Rpm when the Clutch input is Active. See also the Launch Rpm Adjust setting for additional information.

Valid Range is 2,000 to 16,000 Rpm in 10 Rpm Increments.

4 - Launch RPM Adjust, this setting allows the actual Launch(2-Step) Rpm to be adjusted. For example the Launch Rpm setting is 7,200 Rpm and the actual Rpm seen when the 2-Step is active is 7,300 Rpm. The Launch Rpm Adjust setting would need to be set at -100 Rpm to adjust the actual 2-Step Rpm.

Valid Range is -500 to +500 Rpm in 10 Rpm Increments.

Launch Light Enable

5 - Launch Light Enable, use this option to enable or disable the Launch Light. See Launch Light Rpm settings for more details.

Launch Light RPM

6 - Launch Light On, when the Clutch Input is Active this setting controls at what Rpm the shift Light comes on. This setting is used with the Launch Light Off setting to provide an Rpm window for visual indication of the engine Rpm. To use the Launch Lite without the 2-Step function set the Launch(2-Step) Rpm setting to an Rpm higher than the Launch Light Rpm window settings. The On Rpm must be at least 500 Rpm lower than the Off Rpm.

Valid Range is 2,000 Rpm to 15,500 Rpm in 10 Rpm Increments.

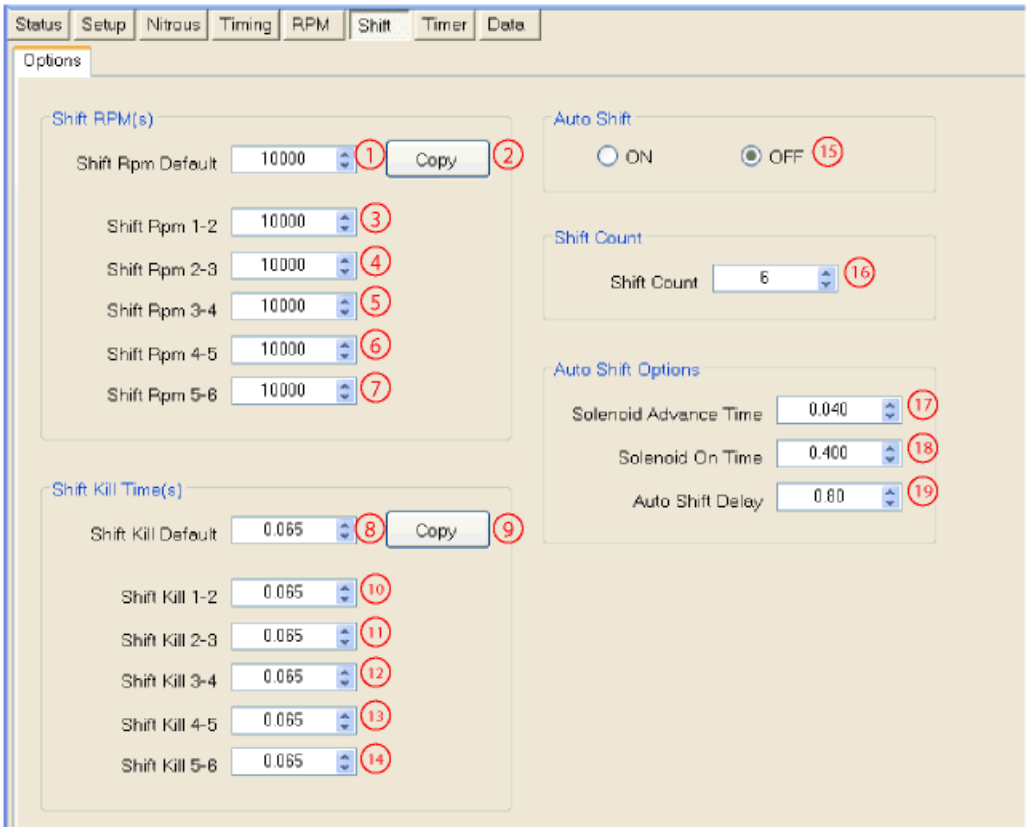
7 - Launch Light Off, When the Clutch Input is Active this setting controls at what Rpm the shift Light turns Off. This setting is used with the Launch Light On setting to provide an Rpm window for visual indication of the engine Rpm. To use the Launch Lite without the 2-Step function set the Launch(2-Step) Rpm setting to an Rpm higher than the Launch Light Rpm window settings. The Off Rpm must be at least 500 Rpm Higher than the On Rpm.

Valid Range is 2,500 Rpm to 16,000 Rpm in 10 Rpm Increments.

3.6 Shift

Options

3.6.1 Options



Shift RPM(s)

1 - Shift RPM Default, the default Rpm is used when the system is NOT activated. Once the system has been activated the Shift Rpm for each gear will be sequentially accessed. The total number of shift Rpm settings available is determined by the Shift Counter setting. Each Shift Rpm setting may be +/- 1000 Rpm of the 1-2 Shift Rpm setting.

Valid Range is 2000 to 16000 Rpm in 10 Rpm Increments.

2 - Copy, copy the Default Shift RPM to all Shift RPM gear positions.

3-7 - Shift RPM, Each Shift Rpm setting may be +/- 1000 Rpm of the 1-2 Shift Rpm setting.

Shift Kill Time(s)

8 - Shift Kill Default, the default Shift Kill Time is used when the system is NOT activated. Once the system has been activated the Shift Kill Time for each gear will be sequentially accessed. The total number of Shift Kill Time settings available is determined by the Shift Counter setting.

Valid Range is 0 to 150 millisecond in 1 millisecond Increments.

For auto type transmissions set the kill time to 0 for the auto cut gear positions, for full auto set all kill time positions to 0.

9 - Copy, copy the Default Shift Kill Time to all Shift Kill gear positions.

10-14 - Shift Kill, kill time for each Gear position while the system is activated.

Auto Shift

15 - Auto Shift Enable, the Shift Style determines if the Auto Shift option is enabled. When the Auto Shift option is enabled the Shift Solenoid will be activated at the set shift rpm settings for each gear position once the controller has been Activated. A manual shift override may be done at any time and will be counted by the Shift Counter if the system is Activated. The Shift Solenoid Advance Time and Shift Solenoid ON Time control the timing for the air shift solenoid in relation to the Shift Kill.

Shift Count

16 - Shift Count, use the Shift Count setting to determine the maximum number of gear positions used. You may set to a lower gear count than the actual transmission has available to prevent an unwanted shift at the end of the track when the Auto Shift option is enabled. A manual shift may be performed at any time and if the Gear Position is equal to the Shift Count setting the last Shift setting data will be used.

Auto Shift Options

17 - Solenoid Advance Time, use this setting to control the amount of time that the shift solenoid output is ON before the shift kill is performed. This setting can compensate for long air supply lines and various size air control solenoids.

Valid Range is .010 to .120 in .001 second Increments.

18 - Solenoid On Time, use this setting to control the amount of time that the shift solenoid output is ON during a shift operation.

Valid Range is .300 to .500 in .01 second Increments.

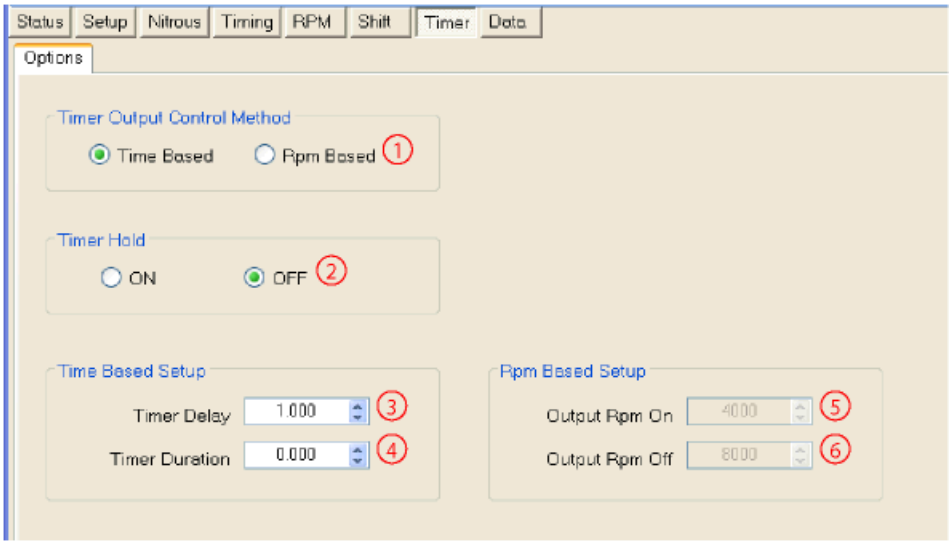
19 - Auto Shift Delay, this setting controls the delay in seconds before the 1-2 Auto Shift can occur after system activation.

Valid Range is 0.00 to 1.50 in .01 second Increments.

3.7 Timer

Options

3.7.1 Options



Timer Output Control Method

1 - Output Control Method, the +12V Timer Output can function as a Timer or an RPM controlled output. Use this setting to choose which control style is used.

Timer Hold

2 - Timer Hold Enable, this setting determines if the +12V Timer Output remains ON if the Activation signal is removed while the Main Timer is still Active. This setting is only used when the System is Activated.

Time Based Setup

3 - Timer Delay, this setting controls the delay before the +12V Timer Output turns ON after activation when Timer style is selected. This setting will NOT appear on the Timer menu if RPM style is selected.

Valid Range is 0.000 to 9.990 in .01 second Increments.

4 - Timer Duration, this setting controls the duration that the +12V Timer Output remains ON after activation and the Timer Delay has expired. A setting of 0.000 disables this function. This setting will NOT appear on the Timer menu if RPM style is selected.

Valid Range is 0.000 to 9.990 in .01 second Increments.

RPM Based Setup

5 - Output RPM On, this setting controls the RPM that the +12V Timer Output turns ON after activation. This setting will NOT appear on the Timer menu if Time based style is selected.

Valid Range is 2,000 to 15,500 rpm in 10 rpm Increments.

6 - Output RPM Off, this setting controls the RPM that the +12V Timer Output turns OFF after activation. This setting will NOT appear on the Timer menu if Time based style is selected.

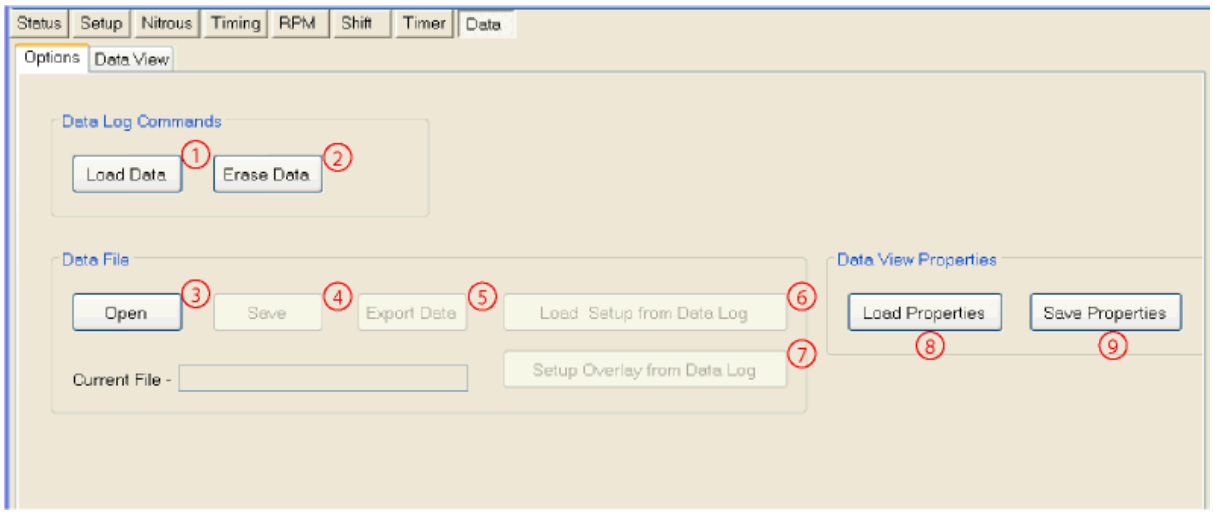
Valid Range is 2,500 to 16,000 rpm in 10 rpm Increments.

3.8 Data

Options

Data View

3.8.1 Options



Data Log Commands

1 - Load Data, load Data Log from controller. A USB connection must be established and the controller cannot be activated.

2 - Erase Data, erase Data Log from controller. A USB connection must be established and the

controller cannot be activated.

Data File

3 - Open, open Data Log file from disk.

4 - Save, save Data Log file to disk.

5 - Export Data, no function implemented, future option.

6 - Load Setup from Data Log, load Setup data from current Data Log file.

7 - Setup Overlay from Data Log, load Overlay data from current Data Log file.

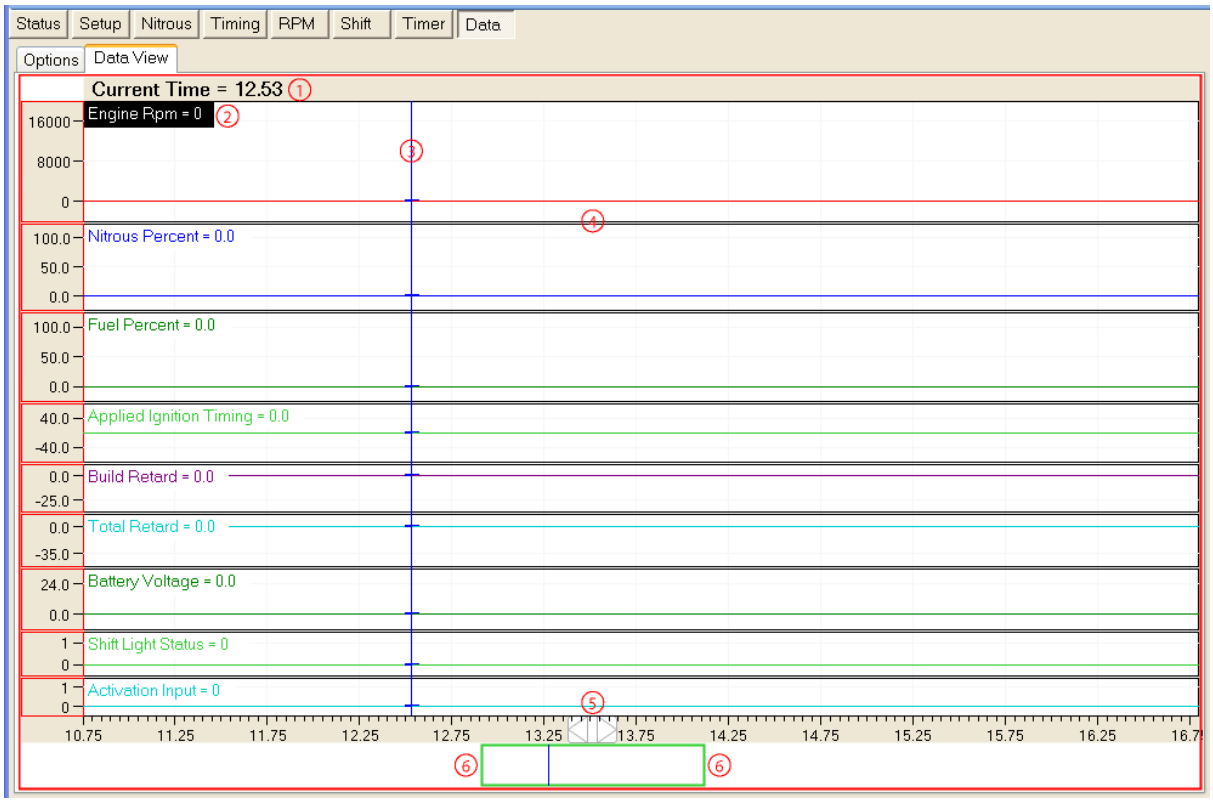
Data View Properties

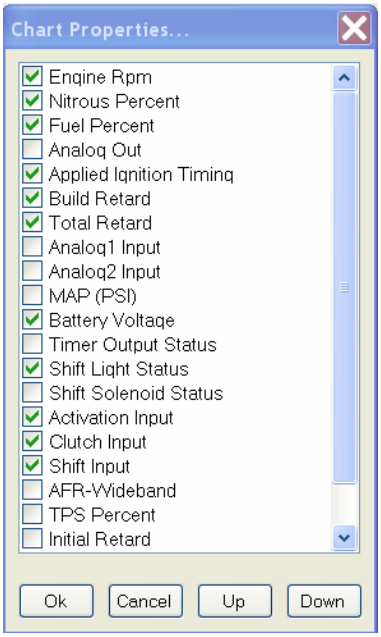
The Dataview properties control which Data is displayed and the layout. Different views can be configured and Saved for use later.

8 - Load Properties, load Dataview properties.

9 - Save Properties, save Dataview properties.

3.8.2 Data View





Data View

The Dataview Control is used to view logged data. The type and number of data elements can be user defined using the Chart Properties menu. This menu is accessed by Right clicking on the control and selecting Properties from the Popup Context menu. You can laod and save Dataview configurations using the "Load Properties", "Save Properties" commands under the Data-Options tab.

1 - Current Time, this is the current time of the cursor(3) position.

2 - Data Title, click on the Title to "Select" a data element. See "Context Menu" commands for Data Smoothing options on selected data.

3 - Data Cursor, click anywhere on the chart to move the cursor to that position or hover the mouse cursor over the Data Cursor to activate the drag control. Left click on the drag control and drag the cursor while holding the left button down, release the button when done. Use the Left/Right arrow keys to move the cursor in coarse increments or use CTRL+Left/CTRL+Right key combinations to move the cursor in fine increments.

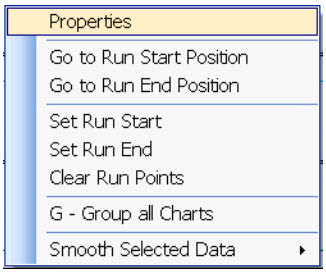
4 - Chart Data Element Separator Bar, hover the mouse cursor over the bar to enable the drag control. Left click on the drag control to adjust the position.

5 - Scroll Cursor, left click on the Scroll Cursor and drag to navigate through the Data.

6 - Zoom Control, hover the mouse cursor over the left or right edge of the Zoom Control to enable the drag control, Left click and drag to desired zoom level. If a mouse scroll wheel is available it may be used to zoom in/out.

Context Menu

Right click on Dataview Control to enable the popup Context menu.



Properties, use the Properties menu to select which Data Elements are displayed and the order in which they are displayed.

Go to Run Start Position, move cursor to 0.00 time position.

Go to Run End Position, move cursor to Used defined Run End position.

Set Run Start, use current Data cursor position as Run Start(0.00 Time position).

Set Run End, use current Data cursor position to define end of Run.

Clear Run Points, clear previously set run Start, End points.

G - Group All Charts, group all Data elements charts together as an overlay.

Smooth Selected Data, use to smooth the Data. The Data is only altered locally in the Dataview control, the actual logged data is NOT altered.